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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/538,012

09/07/2006

David Skuse

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FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER  
LLP

901 NEW YORK AVENUE, NW  
WASHINGTON, DC 20001-4413

EXAMINER

ABU ALI, SHUANGYI

ART UNIT

PAPER NUMBER

1755

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/538,012	Applicant(s) SKUSE ET AL.	
	Examiner Shuangyi Abu-Ali	Art Unit 1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-53 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/01/2006,09/27/2006</u> . | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

(1)

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5–17, 19-33, 35-43 and 47-53 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 00/66510 to Lyons et al.

Regarding claim 1, Lyons et al. disclose a composition comprising ground calcium carbonate (GCC) particles and precipitated calcium carbonate (PCC) particles. The calcium carbonates particles have a steepness factor larger than 38 for GCC and 50 for PCC. The median particle size of both calcium carbonates is less than 0.8 um (page 5, lines 14-16, page 8, lines 15-17 and page 9, line 5).

Regarding claim 5, Lyons et al. disclose the composition comprising a kaolin clay (page 5, line 7).

Regarding claims 6-7, Lyons et al. disclose the weight ratio of calcium carbonate to kaolin clay is in the range of 60:40 (page 10, line 3).

Regarding claim 8, Lyons et al. disclose the composition comprising a blend of GCC and PCC particles (page 5, lines 16-15 and 16)

Regarding claim 9, Lyons et al. disclose the composition is an aqueous suspension (page 5, lines 22-24).

Regarding claim 10, Lyons et al. disclose the composition applied in paper coating (page 1, line 2).

Regarding claims 11-17, Lyons et al. disclose the calcium carbonate particle in the composition having a median size of 0.2-0.8  $\mu\text{m}$  (page 9, lines 5-6).

Regarding claims 19 and 20, Lyons et al. disclose a composition used in paper coating comprising a mixture of ground calcium carbonate (GCC) and precipitated calcium carbonate (PCC) and a binder (page 5 lines 14-16 and 24). The calcium carbonate particles have a median size in the range of 0.2-0.8  $\mu\text{m}$ . The calcium carbonates have a steepness factor larger than 38 for GCC and 50 for PCC (page 8, lines 15-17 and page 9, line 5).

Regarding claim 21, Lyons et al. disclose that the binder amount in the coating composition is in the range of 4% -20% (page 20 line 13).

Regarding claims 22 and 23, Lyons et al. disclose the binder used in the composition can be starches or starch derivatives (page 19, lines 20).

Regarding claim 24, Lyons et al. disclose that the binder may comprise of starches and polymeric lattices (page 19 lines 15-23).

Regarding claim 25, Lyons et al. disclose additives such as cross linker and anti-foamers can be added into the composition (page 21 lines 22 –30).

Regarding claim 26, Lyons et al. disclose the composition optionally comprising of 0.01 % to 1% of dispersant (page 21 lines 3 and 9).

Regarding claims 27-33, Lyons et al. disclose that the PCC particles have a median in the range of 0.2-0.8  $\mu\text{m}$  (page 8, lines 15-17 and page 9, line 5).

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Regarding claim 34, Lyons et al. disclose the composition comprising GCC, PCC particles and a binder (page 21 lines 3 and 9).

Regarding claim 35, Lyons et al. disclose a method of making a coating composition by mixing the carbonates, kaolin, binder in an aqueous medium (page 27 lines 18 and 19, page 5, lines 14-16, page 8, lines 15-17 and page 9, line 5).

Regarding claim 36, Lyons et al. disclose a method of preparing a coated substrate comprising applying the composition to the substrate (page 27 lines 25 and 26) and then calendaring the substrate (page 28, line 7).

Regarding claim 37, Lyons et al. disclose a method of preparing a coated paper (page 1, lines 14 and 15).

Regarding claim 38, Lyons et al. disclose a method of making a coated substrate by applying optimum amount of coating composition to the paper and drying it ( page 23 line 17, 20 and page 28, line 7). The composition used in paper coating comprise of a mixture of ground calcium carbonate (GCC) and precipitated calcium carbonate (PCC) and a binder (page 5 lines 14-16 and 24). The calcium carbonate particles have a median size in the range of 0.2-0.8 um. The calcium carbonates have a steepness factor larger than 38 for GCC and 50 for PCC (page 8, lines 15-17 and page 9, line 5).

Regarding claim 39, Lyons et al. disclose the substrate is paper (page 1, lines 14 and 15).

Regarding claims 40-43, Lyons et al. disclose the kaolin clay particles have a median size of 0.3-0.8 um (page 9, line 2).

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Regarding claims 44 and 47-48, Lyons et al. disclose the kaolin clay particles have a shape factor of less than 25 (page 18, lines 11-13).

Regarding claim 49, Lyons et al. disclose the kaolin clay particles have a median size of 0.3-0.8 um and a shape factor of less than 25 (page 9, line 2 and page 18, lines 11-13).

Regarding claims 50 and 51, Lyons et al. disclose the kaolin clay particles have a steepness factor larger than 38 (page 8, line 9).

Regarding claim 52, Lyons et al. disclose that the binder may comprise of starches and polymeric lattices (page 19 lines 15-23).

Regarding claim 53, Lyons et al. disclose the composition optionally comprising of 0.01 % to 1% of dispersant (page 21 lines 3 and 9).

(2)

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2-4 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 00/66510 to Lyons et al., in view of U.S. Patent NO. 5,879,442 to Nishiguchi et al.

Regarding claims 2-4, Lyons et al. disclose a coating composition comprising GCC and PCC as applicant set forth in claim 1. But they are silent about the GCC and PCC amount ratio as applicant set forth in claims 2-4.

However Nishiguchi et al. also drawn to paper coating composition disclose a coating composition having a GCC amount to PCC amount ratio in the range of 49:51 to 30:70 (col. 4, line 62).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to use Nishiguchi et al. composition ratio motivated by the fact that Nishiguchi et al. disclose that the selection of the

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amount ratio of GCC to PCC is depended on the intended use and the above ratio range renders high content carbonates slurry and the coated paper has good printability and glossiness (col. 2 lines 23-28 and col. 1 line, 10-20).

Regarding claim 18, Nishiguchi et al. disclose a composition comprising GCC and PCC particles.

(3)

Claims 45 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 00/66510 to Lyons et al., in view of U.S. Patent Application Publication No. US 2005/0126730 to Lorusso.

Regarding claims 45 and 46, Lyons et al. disclose a coating composition comprising GCC and PCC as applicant set forth in claim 1. But they are silent about the GCC and PCC amount ratio as applicant set forth in claims 45 and 46.

However it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to use kaolin particles as applicant set forth in claims 5 and 46 motivated by the fact that Lorusso also drawn to composition for paper disclose that a composition comprising calcium carbonate particles and kaolin particles with a shape factor larger than 60 is suitable for paper filler ([0011] and [0001]).

(4)

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Such prior art is listed on PTO-892 A and D-F. Any inquiry concerning this communication or earlier communications from the examiner



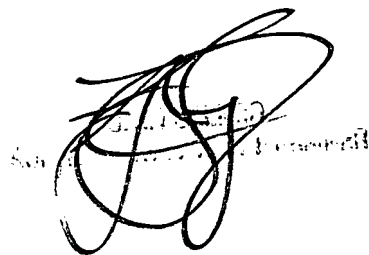
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should be directed to Shuangyi Abu-Ali whose telephone number is 571-272-6453. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SA

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